

REMARKS/ARGUMENTS

Claims 1-6 and 8-14 are active in the case. Claims 4 and 5 stand withdrawn from consideration. Reconsideration is respectfully requested.

The present invention relates to a process of removing methacrylic acid from a liquid phase comprising acrylic acid as a main component and methacrylic acid as a secondary component.

Claim Amendments

Claim 1 has been amended in order to recite in paragraph (f) that the temperature of the polymerization reaction is within the range of 20 to 100° C. Thus, the particular reaction temperature that is chosen fixes the temperature parameter of how much salt is added to the reaction medium in order to attain the saturation amount of salt in the aqueous reaction medium. Support for the temperature range limitation can be found on page 19, lines 38-40 of the specification.

New Claim 15 simply narrows the scope of the salts of paragraph (f) to inorganic salts. Entry of the amendments to Claim 1 is respectfully requested.

Claim Rejection, 35 USC 112, Second Paragraph

It is quite true that the amount of a salt to achieve a saturated solution of the salt depends on several factors which include the temperature of the implied aqueous medium and its volume amount employed in the reaction and the particular salt selected. However, if there is anything that one of skill in the art can determine by “routine experimentation,” it certainly is the amount of a salt that needs to be added to the aqueous solution at a specified temperature to the point of saturation. The language of Claim 1 further enables the

determination since it requires the selection of a specific temperature within the range now recited in the claim.

As to the matter of the description of the weight amount of the salt component (f), it is not seen how the recitation of the weight amount of 1 to 100 % simplifies the issue which the Examiner has raised. Accordingly, applicants have not changed this aspect of the definition of the saturated salt solution. Again, it is noted that the stated quantitative range of salt is set forth in line 1 on page 16 of the text. Withdrawal of the issue is respectfully requested.

Claim Rejection, 35 USC 102

Claims 1-3, 6 and 7 stand rejected based on 35 USC 102(a) as anticipated by Maurin et al, U. S. Patent 6,403,642. This ground of rejection is respectfully traversed.

The technology of the Maurin et al patent is within the field of technology of the present invention, since it discloses a composition suitable for the washing of keratin materials. The formulation of the patent is comprised of at least one surfactant, at least one cationic polyvinyl lactam and at least one acrylic terpolymer. It is noted, however, that the polymers of the patent are prepared by conventional methods. Known polymers that comprise vinylcaprolactam are those mentioned in the paragraph of column 3, lines 60-64. Example 1 of the patent discloses a shampoo formulation in which the known polymers designated as "Luviquat FC 905" and "Structure® Plus" are employed. On the other hand, the composition produced by the presently claimed method is comprised of cationic polymers that are prepared by water-in-water emulsion polymerization (see page 16, lines 10-17 of the specification) which is not the procedure by which the Luviquat polymers disclosed by Maurin are prepared. (It should be noted that the company of the present applicants is the manufacturer of the Luviquat polymers disclosed by Maurin et al, and these polymers are most assuredly not prepared by water-in-water emulsion polymerization as are the present

polymers.) Thus, the present copolymer prepared in a water-in-water emulsion by free-radically initiated polymerization is quite distinct from the solution polymerization polymers utilized in the Maurin et al patent. As applicants discuss immediately below, comparative evidence exists in the present examples which shows the superiority of the polymer emulsions of the present invention in Examples 1-3 versus the polymers prepared by solution polymerization in Comp Examples 4 and 5 (See Table 1). Accordingly, to paraphrase the Examiner, *the composition of Maurin et al is not within the scope of applicants' claimed invention.*

As to the issue of the disclosure of salts and colloids disclosed in Maurin et al, applicants point out that while they may have functions in the product detergent embodiments, the colloids and salt ingredients in the presently claimed invention function in an entirely different realm which is during the water-in-water polymerization. Thus, salt and colloid are used as auxiliaries during the polymerization process as set forth in the present claims.

As stated above, a distinguishing feature of the present invention is the preparation of the cationic polymers by water-in-water emulsion polymerization versus the conventional solution or precipitation polymerization techniques employed to prepare the copolymers of the reference. Examples 1 to 3 are instructive and describe the preparation of emulsion polymers by the water-in-water emulsion of the monomer mixtures disclosed. On the other hand, Examples 4 and 5 show the solution (aqueous) polymerization of the monomers of Examples 2 and 3 (No protective colloid is present in the polymerization medium.). Table 1 shows the viscosity differences between the aqueous products of Examples 1-3 in contrast to the aqueous solutions of Examples 4 and 5. Table 2 shows the results of the performance tests of shampoos formulated from Examples 1 to 5. Superior reduction in combing force is shown

by the shampoos prepared from the emulsions of Examples 1 to 3 in comparison to the shampoos prepared from Examples 4 and 5.

Applicants submit on the basis of the discussion above that the Maurin et al patent does not anticipate the invention as claimed, and withdrawal of the rejection is respectfully requested.

Claim Rejection, 35 USC 103

Claims 1-3, 6 and 8-14 stand rejected based on 35 USC 103(a) as obvious over Schade et al, U. S. Patent 5,962,613 in view of Maurin et al, U.S. Patent 5,962,613. This ground of rejection is respectfully traversed.

Neither the Maurin et al nor the Schade et al patent discloses polymers that are manufactured by water-in-water emulsion polymerization. Accordingly, any attempt to substitute the polymers of Maurin et al with those of Schade et al does not result in the present invention. Again, applicants refer to the comparative evidence provided by Examples 1-5 of the present application which demonstrate that the polymer material of the present claims that is prepared by water-in-water emulsion conditions is significantly different from the polymers produced by solution polymerization as taught by Schade et al. Since the polymer materials disclosed by the two patents are different from the copolymer obtained by the present invention by a different method of polymerization, *one of skill in the art would not have a reasonable expectation of success in adding a cationic vinyl lactam within one reference and substituting it for the other polymer.* In conclusion, the combined teachings of the patents does not lead the skilled artisan to the present invention. Withdrawal of the rejection is respectfully requested.

Appln. No. 10/525,232

Reply to the Office Action of January 22, 2008

It is believed that the application is in proper condition for allowance. Early notice to this effect is earnestly solicited.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.
Norman F. Oblon

Customer Number

22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 06/04)

A handwritten signature in cursive script, reading "FDVastine", written over a horizontal line.

Frederick D. Vastine, Ph.D.
Registration No. 27,013

NFO:FDV